Impact assessment of regional innovation policies by the GMR-Europe model

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In this paper we outline the GMR-EU (Geographic Macro and Regional) model and provide applications to illustrate its capabilities. The GMR system consists of three sub-models: the regional knowledge production function (KPF) sub-model, the regional spatial computable general equilibrium (SCGE) sub-model and the macroeconomic (MACRO) sub-model. The GMR model has been applied in different development policy impact analysis simulations carried out for the Hungarian government and for the European Commission (DG Regional Policy). The paper also provides a selection of recent policy applications of the GMR model.

Keywords: GMR, knowledge production function, TFP, SCGE, development policy impact modeling

Sectoral systems of innovation: knowledge in focus

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Industries are very different in terms of their innovation activity. While some industry is characterized by radical innovation, others have capability to make incremental innovation. The differences between industries appear also in the dominant technology used, the demand, the institutional background, knowledge base and linkages to exploit knowledge.

Introduction to the notion of sectoral innovation system makes possible to describe enterprises' different behaviour to innovate, their innovation capacities and performance. To explore all the special characteristics of a sectoral innovation system, it is reasonable to examine it embedded in the regional and national business environment. This also gives the opportunity to recognize features influencing clusters' development.

Present paper aims to demonstrate a theoretical framework, to build a model, a tool to examine the influence of industries' innovation activities on regional economic performance, especially on the basis of their knowledge intensity.

Keywords: sectoral innovation system, knowledge, knowledge-intensive industry